Content

Section 10

Uintah Basin Plan

Utah State Water Plan

Agricultural Water

Agriculture is the main industry in the Uintah Basin, followed by oil production, mining and tourism.

10.1 Introduction

This section describes the agricultural industry in the basin, along with its problems and future destiny. Agriculture is the largest user of land and water. Most of the irrigated lands have a good water supply, except lands not served by reservoir storage.

10.2 Background

Uintah County ranks number 12 in the state in annual agricultural income at $23 million, Duchesne County is number six at $35.5 million, and Daggett County is number 26 at $1.3 million. In Daggett County, agriculture income ranks number five countywide, with construction, TCPU, services and government generating more income. The Uintah Basin is still mostly rural, but only a few farms and ranches provide full-time employment. Many farms in the basin are part-time operations, with farmers working full-time at other employment. The portions of Summit and Wasatch counties within the basin are primarily used for agriculture and ranching. Ninety percent of the farmers in Daggett, Duchesne and Uintah counties are dependent upon beef production for their income. More than 90 percent of the farms are devoted to cattle grazing and associated agriculture. The irrigated land is located in various locations, such as river bottoms and plateau tops.

The Colorado River Storage Project Act (CRSP) provides for the comprehensive development of the Upper Colorado River Basin. Starvation Reservoir stores irrigation water for upstream and downstream users along the Duchesne River. Steinaker and Red Fleet reservoirs provide irrigation and municipal and industrial water for Ashley Valley and the Jensen area. This long-term storage allows the users to irrigate throughout the growing season. Other reservoirs, such as Strawberry, Current Creek and Upper Stillwater, provide protection and some long-term storage for irrigation, but primarily provide long-term storage for diversions to the Bonneville Basin. This storage is needed to deliver a reliable water supply throughout the growing season. Some drilled wells to supplement the irrigation supply. Some water is also pumped from the Green River for farms along its river bank.

Sprinklers in Jensen area

10.3 Agricultural Lands

The Uintah Basin has suitable climatic and soil conditions for diversified irrigated farm agriculture. Beef and some dairy farming are the principal farm enterprises. In the lower Roosevelt area and Ashley Valley, salinity derived from the Mancos Shale is a problem. When excess irrigation water is applied to a field, alkali is drawn to the surface and carried away by waste water. The Colorado River Basin Salinity Control Program helps reduce this salt-loading through irrigation water management. Lands historically worked with flood irrigation are increasingly now irrigated via sprinkler systems. This has helped preserve or increase the productivity of cropland in the area.

Hay harvest near Vernal

10.3.1 Irrigated Cropland[154,156,145]

The Division of Water Resources report, *Water-Related Land Use Inventory of the Uintah Basin*, shows approximately 201,120 acres of privately owned irrigated crop and pasture lands in the Uintah Basin. This includes Indian and non-Indian lands. The average irrigated farm is approximately 130 acres in Uintah County, 170 acres in Duchesne County, and 150 acres in Daggett County. The principal crops grown are pasture (37 percent), alfalfa (29 percent), grass hay (15 percent), small grains (5 percent), corn, grain and silage (3 percent). Irrigated cropland depletes 411,320 acre-feet of irrigation water. Table 10-1 shows the acreage for each crop. Irrigated cropland is shown on Figure 10-1. Changes have occurred in geographical distribution of major crops grown over the past 20 years in the Uintah Basin. Alfalfa and small grain production has remained stable in terms of acreage. This production, however, is concentrated in areas of well-drained soils and where sprinkler irrigation is practiced.

10.3.2 Dry Cropland

Dry farm production of wheat is very limited in the basin, amounting to about 2,400 acres, mostly on Diamond Mountain which is located northeast of Vernal.

10.3.3 Other Lands

Urban lands (cities, farmsteads and developed areas) total about 18,170 acres. Most of the remaining land area consists of rangeland, wetlands and national forests. According to the *Utah Conservation Needs Inventory Report*, issued in 1970, there are 349,930 acres of private range land in Uintah County, 783,590 acres in Duchesne County and 63,550 acres in Daggett County. Additional rangeland is used for livestock grazing and wildlife. These lands are administered by the Forest Service and Bureau of Land Management.

10.4 Agricultural Water Problems and Needs

Water problems in the agricultural sector are centered around supply shortages.

Table 10-1
Irrigated Land by Crop - 1994

Crop	Carbon	Daggett	Emery	Duchesne	Summit	Uintah	Wasatch	Total
				(acres)				
Fruit	0	0	0	3	0	30	0	33
Grain	0	7	0	6,583	0	3,356	54	10,000
Corn	5	0	0	2,550	0	3,019	0	5,574
Vegetables	0	0	0	19	0	2	0	21
Alfalfa	248	2,318	31	28,106	1	30,963	289	61,956
Grass Hay	4	4,526	0	18,853	334	6,864	687	31,268
Grass/Turf	0	0	0	5	0	0	0	5
Pasture	187	2,705	77	44,827	739	28,908	504	77,947
Sub-Irrigated	0	758	0	75	62	1,970	2	2,867
Hay/Grass	0	1,025	0	4,092	1,339	4,788	205	11,449
Total	444	11,339	108	105,113	2,475	79,900	1,741	201,120

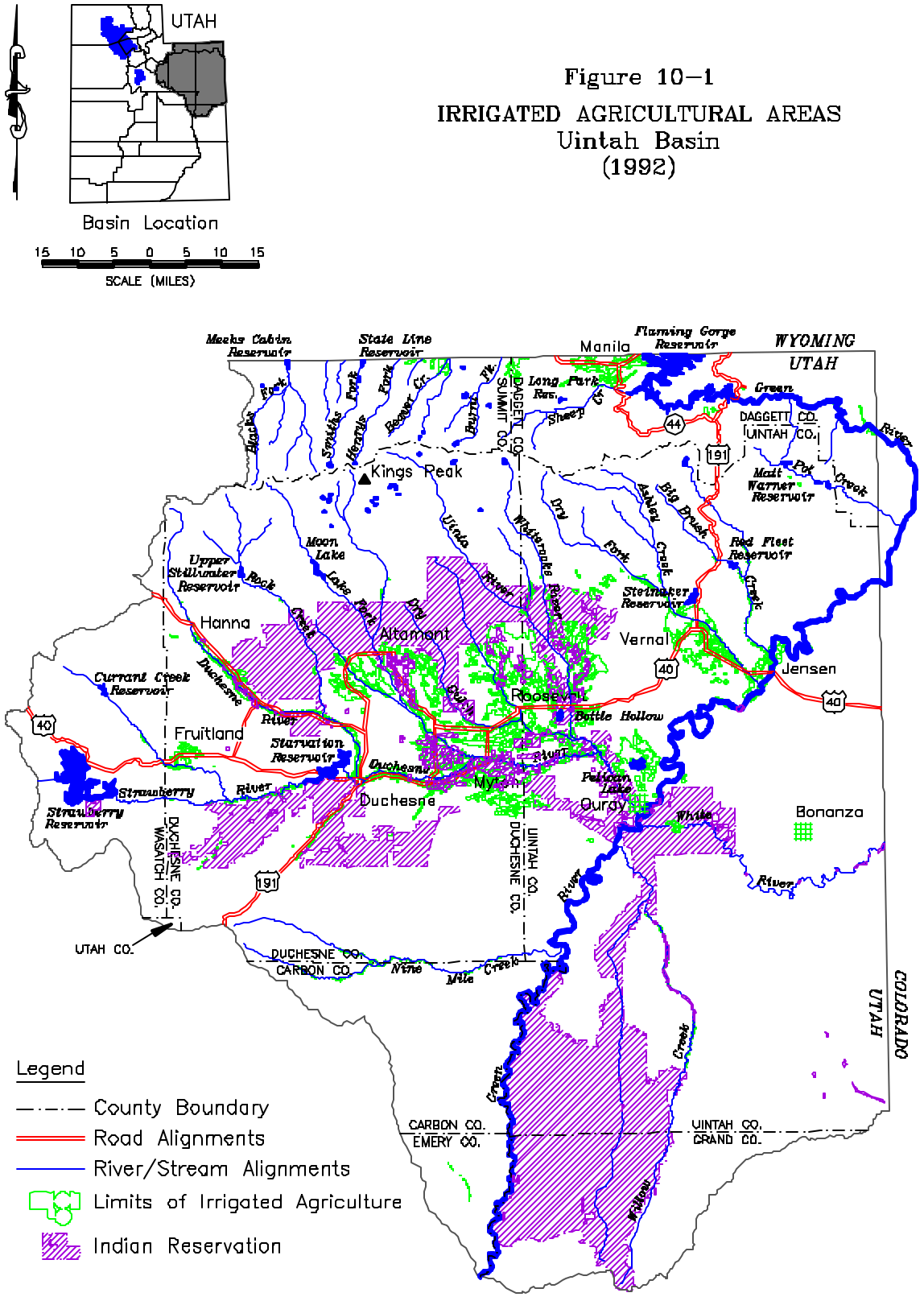

Figure 10–1

IRRIGATED AGRICULTURAL AREAS
Uintah Basin
(1992)

Table 10-2
Current And Projected Irrigated Cropland

Year	Carbon	Daggett	Duchesne	Emery	Summit	Uintah	Wasatch	Total
				(Acres)				
1994	440	11,340	105,110	190	2,480	79,950	1,740	201,120[a]
2020	440	10,890	104,210	190	2,480	79,090	1,840	199,140
2050	440	10,850	103,310	190	2,480	78,290	1,930	197,490

[a]Water-Related Land Use Inventories - Uinta Study Unit

10.4.1 Irrigation Water Shortages

Future demands for irrigation water should remain about the same. Some farmlands are high in salt toxicity, and other lands and homesteads have been abandoned and reverted back to pasture. However, some of this farmland could be irrigated if reservoir storage could be provided. The Upalco and Uintah Replacement Projects, if constructed, will extend the water supply for the growing season by about two to three weeks.

Irrigation water is usually plentiful in the spring and early summer but scarce near the end of each growing season. Without storage of peak spring flows, late season irrigation is impossible. More reservoir storage is needed to supply supplemental water for water-short areas and during dry years. Water conservation methods such as sprinkler irrigation and canal lining should also help increase the water supply.

10.4.2 Erosion

Soil loss through erosion occurs on lands in the upper watershed, on dry farm lands during snowmelt runoff, and on irrigated cropland. The most critical erosion problems are occurring on flood-irrigated row crops where soil losses approach 10 tons per acre per year in some areas.

10.4.3 Cropland Conversion

Irrigated cropland is not expected to change much in the next 20 years; however, a small amount of land will be lost to urbanization. Table 10-2 shows the current and projected irrigated cropland acreages. The amount of water needed for irrigation of crops to the year 2050 is estimated in Section 9, Table 9-4. Figure 10-1 shows irrigated agricultural areas.

10.4.4 Salt Problem

Crop yields have decreased in areas with poor drainage and salt toxicity problems. Decreased yields of alfalfa and small grains are also evident in areas where over-irrigation has occurred. However, the Colorado River Salinity Project has helped to increase crop yields through better irrigation practices, such as sprinkler and gated pipe irrigation.

10.5 Conservation and Development Alternatives

Upgrading old irrigation systems and installing new efficient lawn and garden systems are conservation and development objectives.

10.5.1 Conveyance Systems

New projects such as the Upalco and Uintah Units of the CUP could entail replacement or combination of old canals and ditches and construction of two small reservoirs. The additional water supply will be used for supplemental irrigation water. The Uintah Unit will provide an average supply of 12,320 acre-feet for Indian water needs and 6,650 acre-feet of non-Indian water. The Upalco Unit will provide an average supply of 9,230 acre-feet Indian water and 10,280 acre-feet non-Indian water. Some additional water will become available for other uses if the projects are completed.

Uintah Basin Canal Project

As part of the ongoing Salinity Control Program, the Bureau of Reclamation (BR) is investigating several opportunities within the Duchesne River drainage to implement off-farm canal irrigation system improvements. Through modification of the timing of return flows, these improvements have the effect of reducing salt loading to the Colorado River. These improvements would be implemented by local water user groups, funded through a competitive grant program administered by the BR.

10.5.2 Application Methods

Changes could also occur in on-farm application efficiency in Uintah and Duchesne counties, if the proposed projects proceed. Pipelines and sprinkler systems will be constructed under the Colorado River Salinity Control Project.

10.5.3 Watershed Management

Watershed projects for Sand Wash and Hancock Cove have been completed by the Natural Resources Conservation Service. More work is underway for the Martin Lateral. Watershed studies for Pot Creek and Red Creek Wash were completed by the Division of Wildlife Resources. The Central Utah Water Conservancy District completed watershed management studies for the Uintah and Upalco Units of the Uintah Basin Replacement Project.

10.6 Issues and Recommendations

Three water policy issues affecting agriculture are: reservoir water storage, flood control and salinity.

10.6.1 Need for Reservoir Water Storage

Issue - A shortage of irrigation water generally occurs during July and August due to inadequate reservoir storage in the basin.

Discussion - Farm areas below streams with inadequate or no reservoir storage run out of irrigation water in July during dry years. Third crop hay dries up and a low yield occurs. Water storage on Yellowstone, Uinta and Whiterocks rivers and upper and lower Ashley Creek is needed. Water could be stored during the winter and high spring flood runoff for later use during the late summer months. Where storage is not available, shortages also occur before the spring runoff. The reservoirs should therefore be large enough for carry-over storage.

Recommendation - Storage reservoirs should be constructed on the Yellowstone, Uinta and Whiterocks rivers and upper and lower Ashley Creek.

10.6.2 Flood Control

Issue - Ashley Creek needs flood control and bank stabilization during wet years.

Discussion - Ashley Creek, during wet cycles, floods the surrounding countryside and destroys its banks. After earlier flooding in 1983-1984 and 1997, the Corps of Engineers straightened and rebuilt some of the stream channel. This work only increased the flooding and bank erosion. Stabilization of the stream is needed, which includes rebuilding old meanders, higher and longer bridges, and reinforcing the stream channel at strategic locations. High stream flows should be stored in an upstream reservoir and released over a longer duration.

Recommendation - A reservoir should be built to reduce the high flow peak. Old meanders should be rebuilt and the stream stabilized. Larger bridges should be built crossing Ashley Creek.

10.6.3 Need to Continue the Salinity Control Program

Issue - The Salinity Control Program has been reduced in recent years.

Discussion - The federal govenment has reduced the Salinity Control Program funding. Reduced funding will slow the completion of projects associated with the Colorado River Salinity Program and may eventually violate the treaty with Mexico. To date, the salinity reduction program has reduced the salt load in the Duchesne River by 92,300 tons of salt per year by increasing the efficiency of irrigation systems and management. Of the original goal of improving irrigation practices on 137,000 acres, 37,000 acres remain to be treated. Better efficiency also means more profit for the irrigator.

Recommendation - The Colorado River Salinity Control Program in the Uintah Basin should be fully funded and completed. ❑